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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,378	07/12/2005	Wolfgang Beyer	5776-000001/US/NP	2062

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EXAMINER	
KIANNI, KAVEH C	

ART UNIT	PAPER NUMBER
2883	

MAIL DATE	DELIVERY MODE
10/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/511,378	BEYER ET AL.	
	Examiner	Art Unit	
	Kianni C. Kaveh	2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *26-49* is/are pending in the application.

4a) Of the above claim(s) *45-49* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *26-38 and 40-44* is/are rejected.

7)☒ Claim(s) *39* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

- Subsequent to the Applicant's request to consider the Applicant response timely filed on 3/28/07, the Examiner vacated the notice of the Abandonment dated 04/02/2007.

Newly amended/submitted nonelected method claims 45-49 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, Group I, claim(s) 26-44 are drawn to an integrated optical waveguide. Group II, claim(s) 45-59 that depend on claim 26, drawn to a method of fabricating a waveguide including the photodiode portion and the detecting means are fabricated by one or more of lithographic techniques, doping and ion implantation. The inventions listed as Groups I do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Invention I can be fabricated by means of for example chemical and wet etching rather than lithography or ion implantation technique as claimed in invention II.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 45-49 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Allowable Subject Matter

Claim 39 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 39 allowable because the prior art of record, taken alone or in combination, fails to disclose or render obvious wherein the diffusion regions are produced using silicone as a curable, liquid diffusion medium in combination with the rest of the limitations of the base claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 26-32, 34-38, and 41-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bays et al. (US 2005/0165462).

Bays teaches a light delivery device with a diffuser which is attachable to a light guide (shown in at least fig. 1) and in which different diffusion regions with different scattering parameters follow successively along an optical axis of the light guide prolongated into the diffusor and in which the diffusion regions will overlap with respect to a line-of-sight aligned at a right angle to the optical axis of the light guide (shown in at least fig. 9, items overlapping diffusion regions), wherein a boundary surface between adjacent diffusion regions has the shape of a laminar flow profile (shown in at least fig. 9, is a shape of a laminar flow profile over boundary surface between adjacent diffusion regions).

However, Bays does not explicitly state that the above light delivery device is a 'light applicator'. It is obvious/well-known to those of ordinary skill in the art when then invention was made that a light deliver device with a diffuser is/known-as a light applicator, since such device would provide light transmission and diffusion apparatus is operable with a high efficiency, highly predictable illumination profile and ease of use (0023).

Bays further teaches wherein the boundary surface is formed in a paraboloidal way between the diffusion regions (see fig. 9); whose diffuser comprises a mirror element at its distal end (see 0004); wherein the concentration of scattering centers as averaged over the cross-sectional surface area increases along the optical axis towards the distal end of the diffuser (this is a functional limitation not given patentable weight,

none the less it is taught by Bays shown in at least fig. 9/10/4); whose diffuser has a homogeneous distribution of light along the optical axis as a result of the scattering parameters in the diffusion regions (shown in at least fig. 4); wherein the diffuser is associated with a reflection element by which the light emitted by the diffuser can be guided in a predetermined direction (see 0004); wherein the transition between the light-emitting surface of the reflection element and the light-emitting surface of the diffuser has a conical nose (shown in fig. 15, item(s) conical nose(s) 702 or 752 or TS having conical shape in transition region between the light-emitting surface of the reflection element and the light-emitting surface of the diffuser); wherein the distribution of the power density of the light emitted by the diffuser along the optical axis has a local maximum in the region of the reflection element as a result of the chosen scattering parameters in the proximal diffusion regions (this is a functional limitation not given patentable weight, none the less it is taught by Bays shown in at least fig. 6/9/10/4); wherein the concentration of the scattering centers as averaged over the cross section has a local maximum in the region of the reflection element (this is a functional limitation not given patentable weight, none the less it is taught by Bays shown in at least fig. 9/10/4); wherein the concentration of scattering centers along the optical axis as averaged over the cross-sectional surface area shows a minimum between the proximal end and the distal end of the diffuser (this is a functional limitation not given patentable weight, none the less it is taught by Bays shown in at least fig. 9/10/4); wherein the distribution of light through the light-emitting surface of the reflection element and through the light-emitting surface of the diffuser is homogeneous (se at least fig. 9/10);

wherein the diffusion regions are produced on the basis of silicone (see parag. 0055); wherein the diffusion regions are enclosed by a covering which has a smaller refractive index than the refractive index of the diffusion regions (see at least fig. 9/10; wherein the light wave travels with high refractive index medium than a covering with less refractive index which light does not travel/exit the surrounding tube/covering); whose light-emitting surfaces are covered by a partly backscattering layer (see such extremely conventional limitation in at least 0032); whose diffuser is provided with a flexible/rigid configuration (shown in at least fig. 1 and 4).

26-32, 34-38, and 41-44

Claims 33 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over combination of Bays et al. and an article disclosed in Forscungsberich 97 (Entwichlung eines Lichtapplikators fur die PDT von Portio und Zervixkanal), Feb 1997 (supplied by the applicant as prior art).

Regarding claim 33 as stated in rejection of claim 32, above, Bays teaches all limitations that claims 33 depend on. Bays further teaches wherein the reflection element is a segment which is applied on the diffuser and which is provided on one outer side with a layer reflecting the light (see 0004). However, Bays does not specifically teach wherein the above reflection section is spherical spherical and that wherein the diffusion regions are produced on the basis of silicone, TiO2 or BaSO4. These limitation is taught by the article in Forscungsberich 97 article, above, (see in the fig. Item spherical reflector/mirror layer 'Reflektor' and page 2 1st parag.). Thus, Forscungsberich 97 article provides reshaping of a end reflector as spherical. Thus, it would have been obvious to those of ordinary skill in the art when then invention was

made to use combiantionnal teachings of Bays and the published article to produce a light applicator/diffuser that include the above limitations, since such resulting device would provide light transmission and diffusion apparatus is operable with a high efficiency, highly predictable illumination profile and ease of use (0023).

Response to Arguments and Amendment

Applicant's argument filed on 3/28/07 have been fully considered but they are not persuasive.

Applicant argues about the differences between the application and the prior art without specifically stating exactly what limitation Bas et al. fail to teach. Regarding the parabolic shape of the distribution of the reflected light the examiner states that such shape is shown in at east (see fig. 9).

Regarding the Applicant's submission of the declaration to show the evidence of different embodiments of the present invention, the Examiner responds that first the evidence is not in English, second the Examiner so far from such evidence has not been persuaded that all limitations of the claimed invention is taught by the evidence, thirdly if the Examiner would find such teachings then the Examiner may reject the claimed invention under 35 USC 102 (b) using such evidence.

- Applicant is kindly advised to appropriately narrow the scope of the invention in order to allow the case.

THIS ACTION IS MADE FINAL

This action in response to applicant's amendment made FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Cyrus Kianni whose telephone number is (571) 272-2417.
The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 6:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font, can be reached at (571) 272-2415.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for formal communications intended for entry)

or:

Hand delivered responses should be brought to Crystal Plaza 4, 2021 South Clark Place, Arlington, VA., Fourth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956.

K. Cyrus Kianni
Primary Patent Examiner
Group Art Unit 2883

October 2, 2007